SEMI-ANNUAL STATUS REPORT

for

NASA Grant NAG 5-1519

January 15, 1995

"Data Validation for Total Ozone Mapping Spectrometer for Small Class Observer"

J. L. Stanford, Principal Investigator

The goal of this project is to provide detailed analyses of previous TOMS gridded data with which the data from the next TOMS instrument can be checked and validated. Time/spectral comparisons are used to provide sensitive tests on instrument operation and details of data calibration, retrieval, and gridding algorithms.

Results since last progress report:

Our space-time analyses of 13 years of TOMS Version 6 data are continuing and have led to the following publications:

1. A paper has been revised, accepted and published dealing with our finding a clear synchronization between the stratospheric quasi-biennial oscillation (QBO) zonal winds and fast propagating waves in tropical TOMS data. Total ozone wave amplitudes of 3-6 Dobson Units occur when phase propagation direction is opposite the Singapore QBO lower stratospheric winds. (Ziemke and Stanford, 1994, see number 1 below.) These results underscore the utility of the long time series and excellent horizontal coverage of TOMS data for dynamical investigations in the relatively observation-poor tropical stratosphere. These results were also presented at the Seventh Conference on Satellite Meteorology and Oceanography in Monterey, CA, in June 1994.

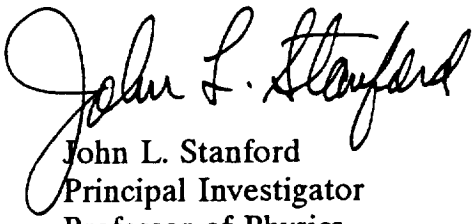
2. Comprehensive details of space-time spectra for 13 years of TOMS records are being prepared to be issued as a NASA Reference Publication (Ziemke, et al., 1995; see number 2 below).

Papers published or submitted in the last 6 months supported by this Grant:

1. Ziemke, J. R., and J. L. Stanford, 1994: The Quasi-biennial Oscillation and Tropical Waves in Total Ozone. J. Geophys. Res., 99, 23041-23056.

2. Ziemke, J. R., J. L. Stanford, R. D. McPeters(1), A. J. Krueger(1), and P. K. Bhartia(1), 1995: Spectral Analyses, Climatology and Inter-annual Variability of Nimbus-7 TOMS Version 6 Total Column Ozone. NASA Ref. Publ. (in progress). (1) NASA Goddard Space Flight Center, Greenbelt, MD

Three copies of this report are being sent to Dr. P. K. Bhartia, Project Scientist, Code 916, Goddard Space Flight Center, Greenbelt, MD 20771, and two to the NASA Scientific and Technical Information Facility, 800 Elkridge Landing Road, Linthicum Heights, MD 21090.



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